

MACHINE SERVICE BULLETIN #101

SUBJECT: Installing and Dismantling  
Motors on LA Models

DATE: February 25, 1930

TO ALL OFFICES:

This Bulletin illustrates and describes how to remove and properly install the motor on the LA model machine, and how to change the condenser and resistor units, together with a complete wiring chart.

This information should be thoroughly studied before a serviceman attempts to perform any of the operations required to dismantle or install any of the units referred to.

The contents of Supplementary Machine Service Bulletins #100-A and #100-B are closely related to this subject, inasmuch as they furnish the voltages of the various motors used, together with the necessary resistor and condenser requirements. Therefore, these Bulletins should be carefully understood before attempting any work of this nature.



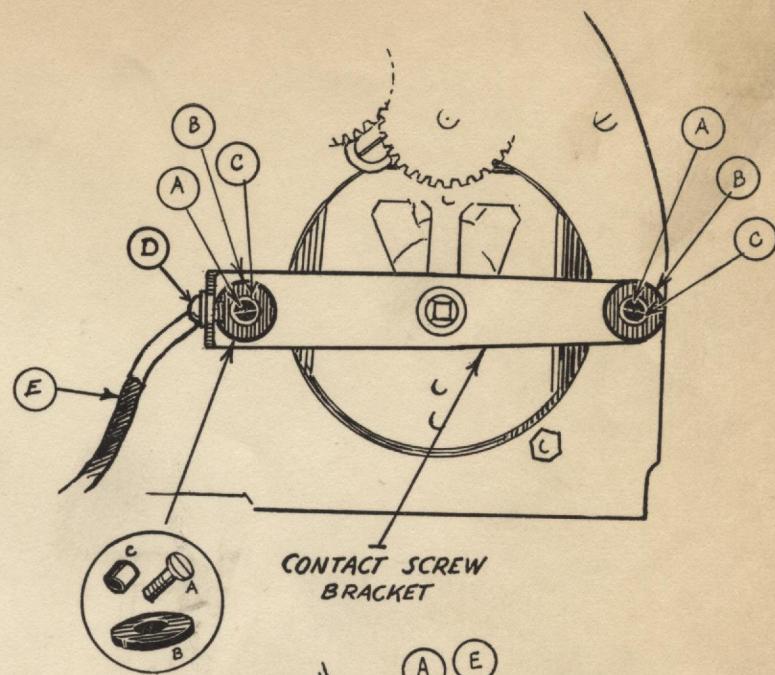
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General Service Manager

## Instructions for dismantling power units on LA Model

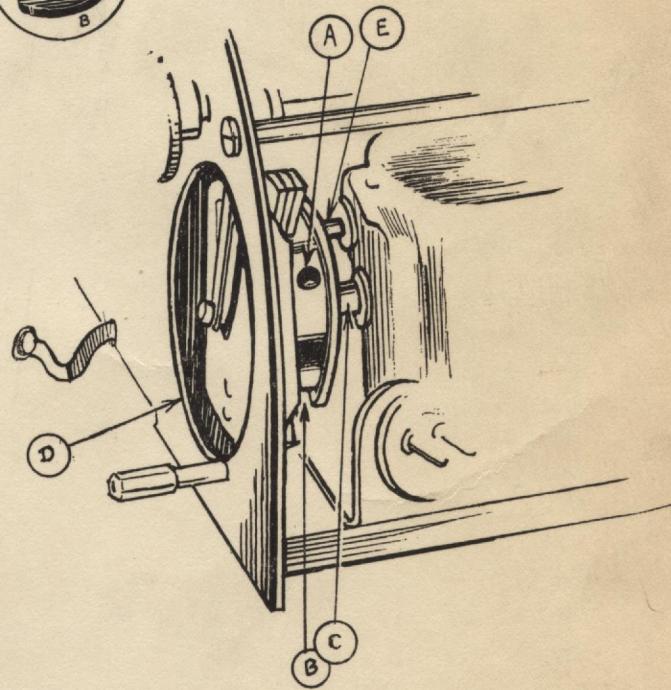
### 1. How to remove contact screw bracket.

Remove black screws A, black fibre washers B, red fibre bushings C. Remove screw D to disconnect wire E. Lay bracket aside.



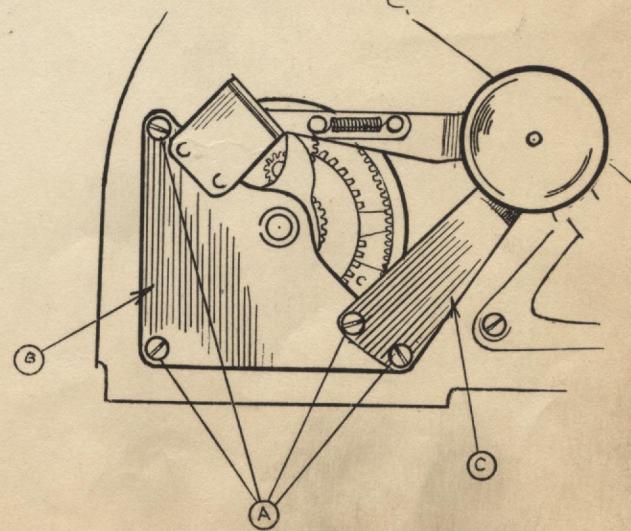
### 2. How to remove governor from motor.

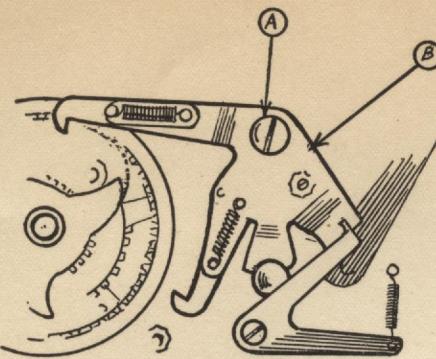
Loosen set screw A, slide governor B on motor shaft C through opening D in side frame. Remove carbon brush E.



### 3. How to remove outer bearing plate, bracket and bell.

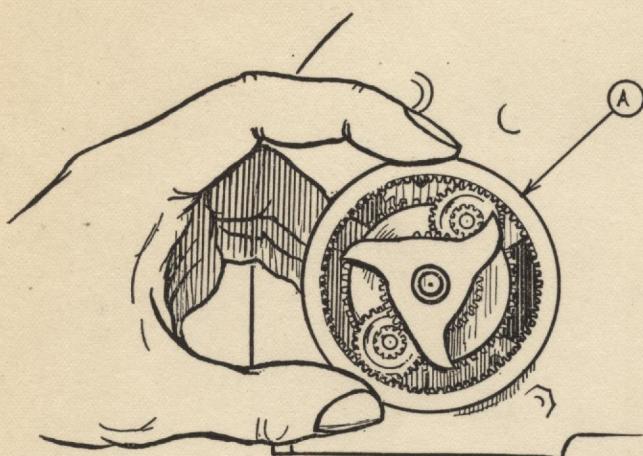
Remove screws A, bearing plate B, bracket and bell C.





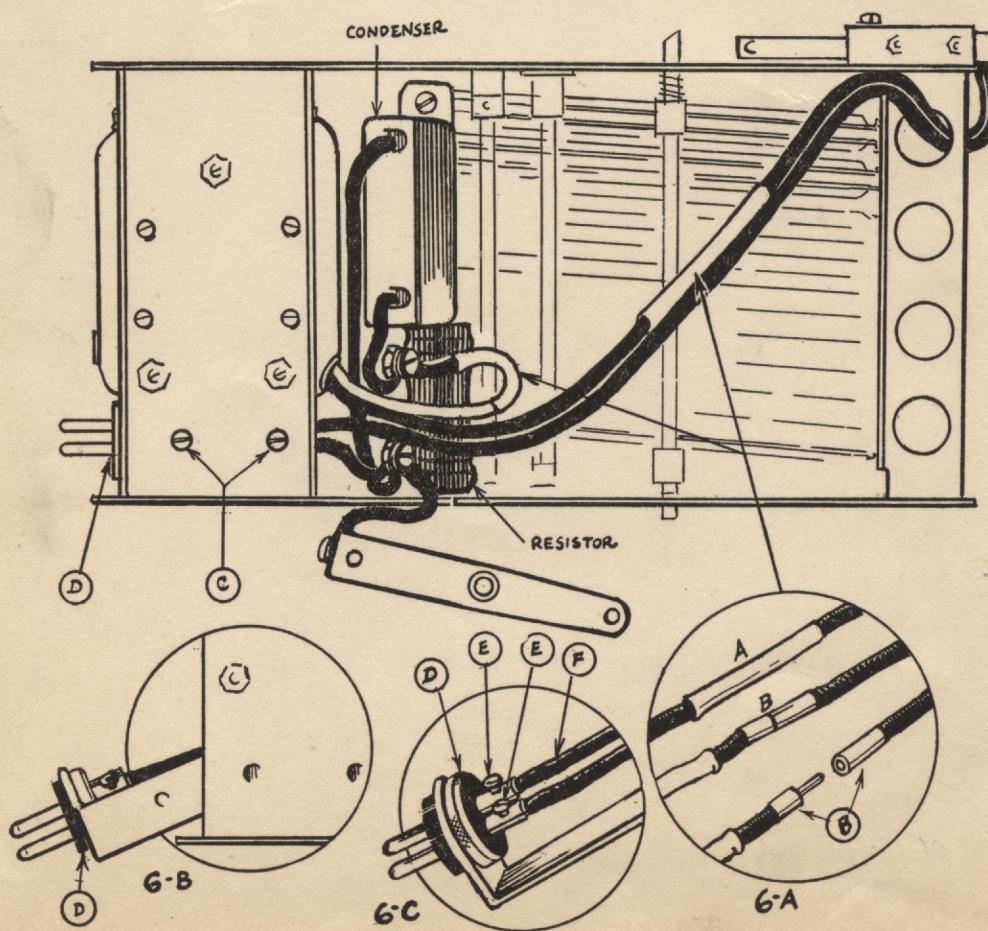
**4. How to remove clutch yoke.**

Remove screw stud A; remove clutch yoke B.



**5. How to remove transmission.**

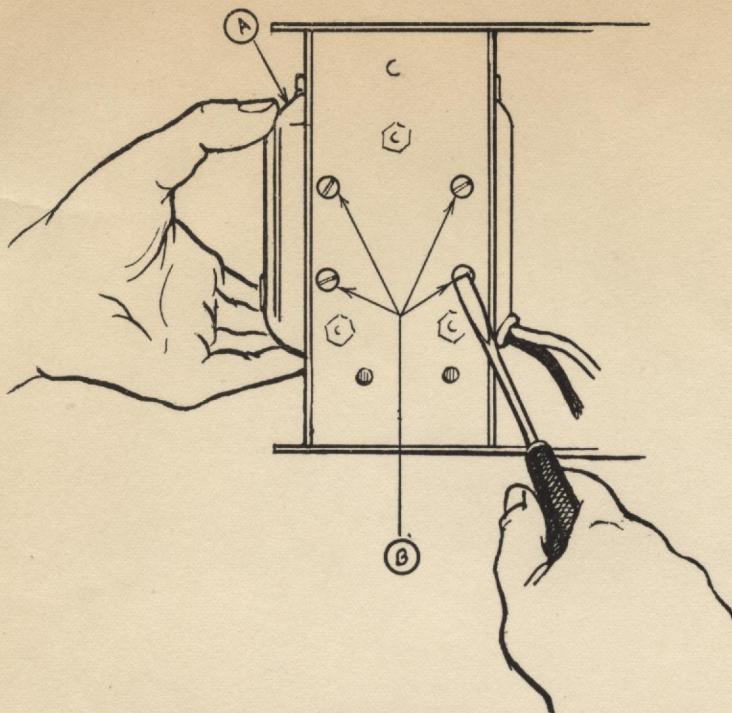
Grasp ring gear A as shown in illustration. Lift transmission outward.



**6. How to disconnect motor leads.**

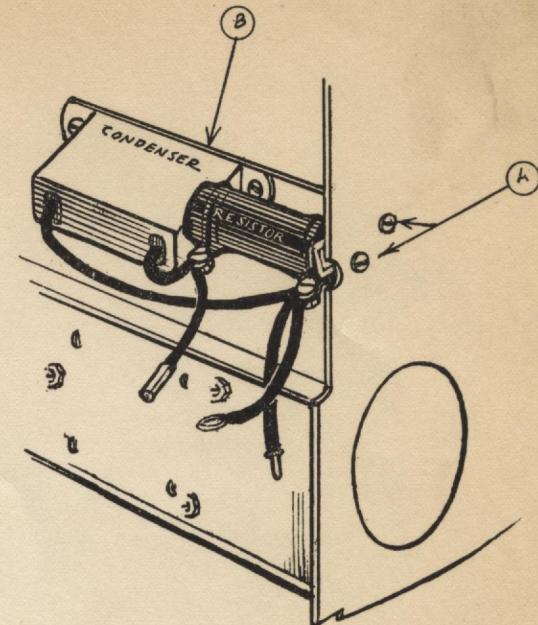
Slide rubber insulation A to one side of connections B. Separate connections B as shown in illustration 6A. Remove screws C. Pull motor connection D forward as shown in illustration 6B.

Loosen screws E from motor connection D. Remove wires F as shown in illustration 6C. Lay connection D aside.



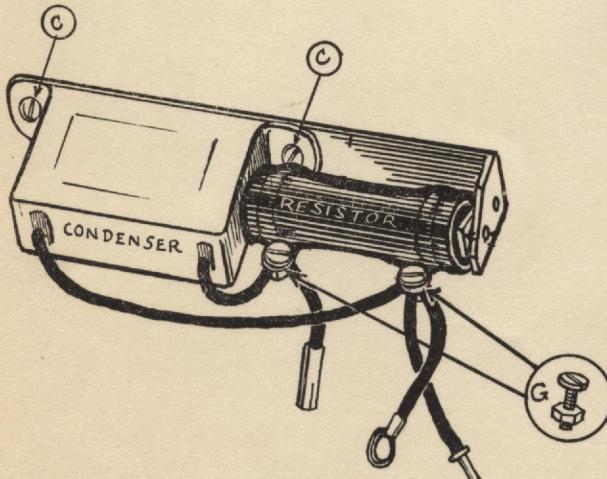
**7. How to remove motor.**

Hold motor A as shown in illustration. Remove screws B. Slide motor A through opening in back of machine.



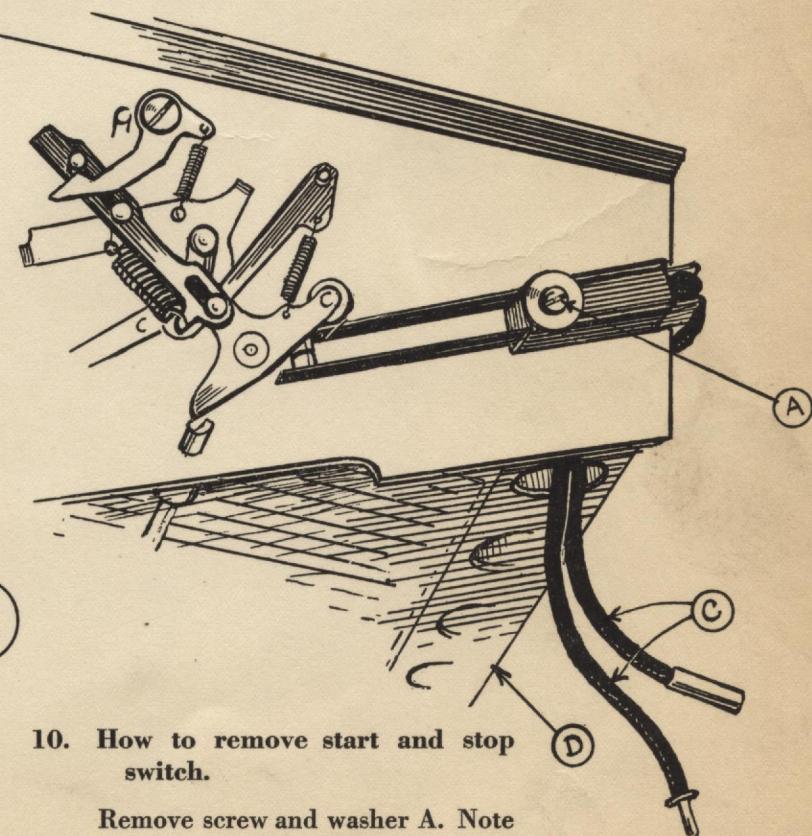
**8. How to remove condenser and resistor units from machine.**

Remove screws A. Remove condenser and resistor unit assembly B.



**9. How to dismantle condenser and resistor unit assembly.**

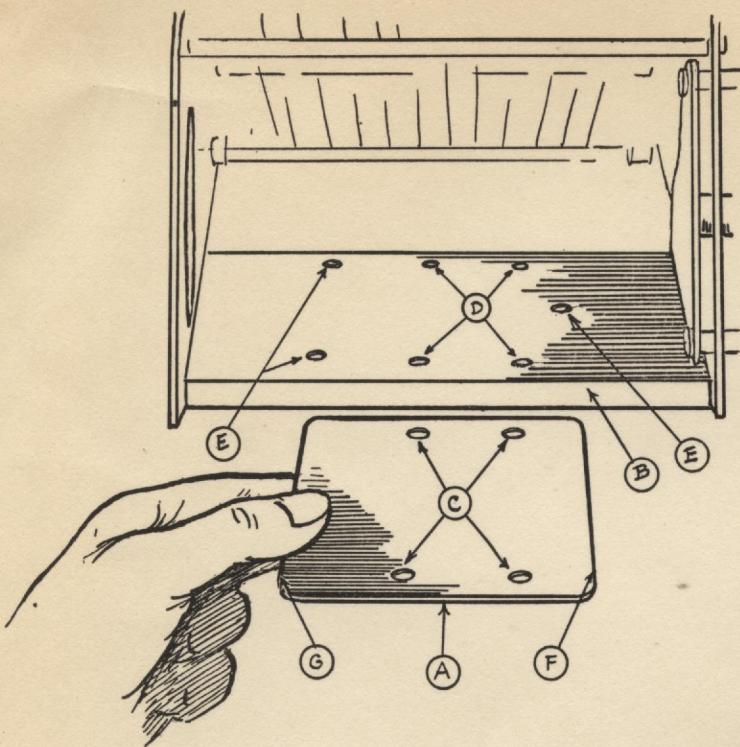
- (A) How to remove resistor.  
Remove screws and nuts G.
- (B) How to remove condenser from bracket.  
Remove screws C.



**10. How to remove start and stop switch.**

Remove screw and washer A. Note position of wires C in front cross frame D.

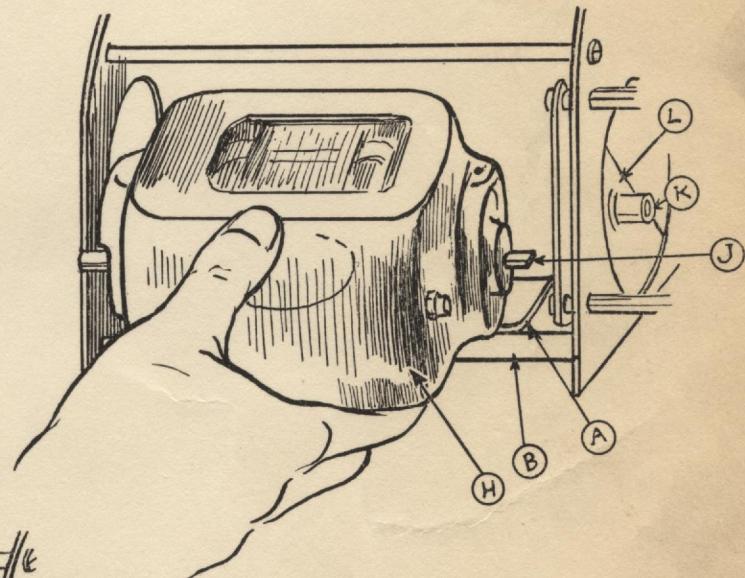
## Instructions for assembling power units on LA Model



### 11. How to assemble motor adjusting plate to machine.

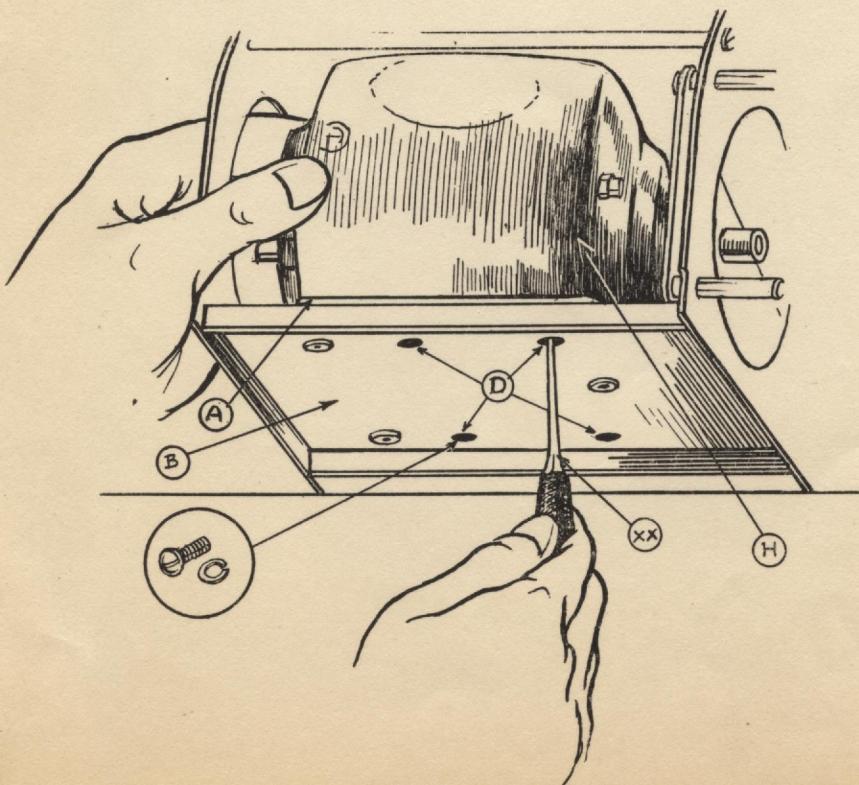
Place motor adjusting plate A in proper position on motor supporting plate B. Screw holes C in motor adjusting plate A should be in proper alignment with screw holes D in motor supporting plate B.

Note: Motor adjusting plate A must cover motor adjusting screw holes E in motor supporting plate B. The screw holes C in motor adjusting plate A are located closer to outside edge F than to inside edge G. Therefore, plate A must be assembled to plate B in the manner described.



### 12. How to assemble motor to machine.

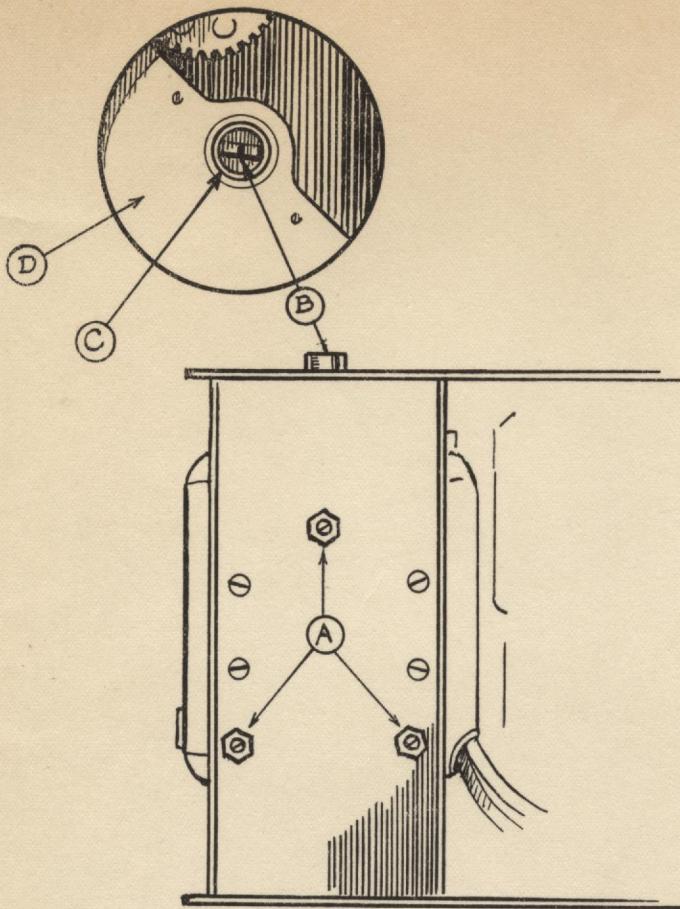
Place motor H on adjusting and supporting plates A and B as shown in illustration. Slide end of motor shaft J into bearing K on inside transmission plate L.



### 13. How to secure motor to supporting plate.

Line up screw holes D in motor supporting plate B with screw holes in adjusting plate A, and motor H, with punch XX as shown in illustration. Place lock washers on screws, and insert screws in screw holes D in motor supporting plate.

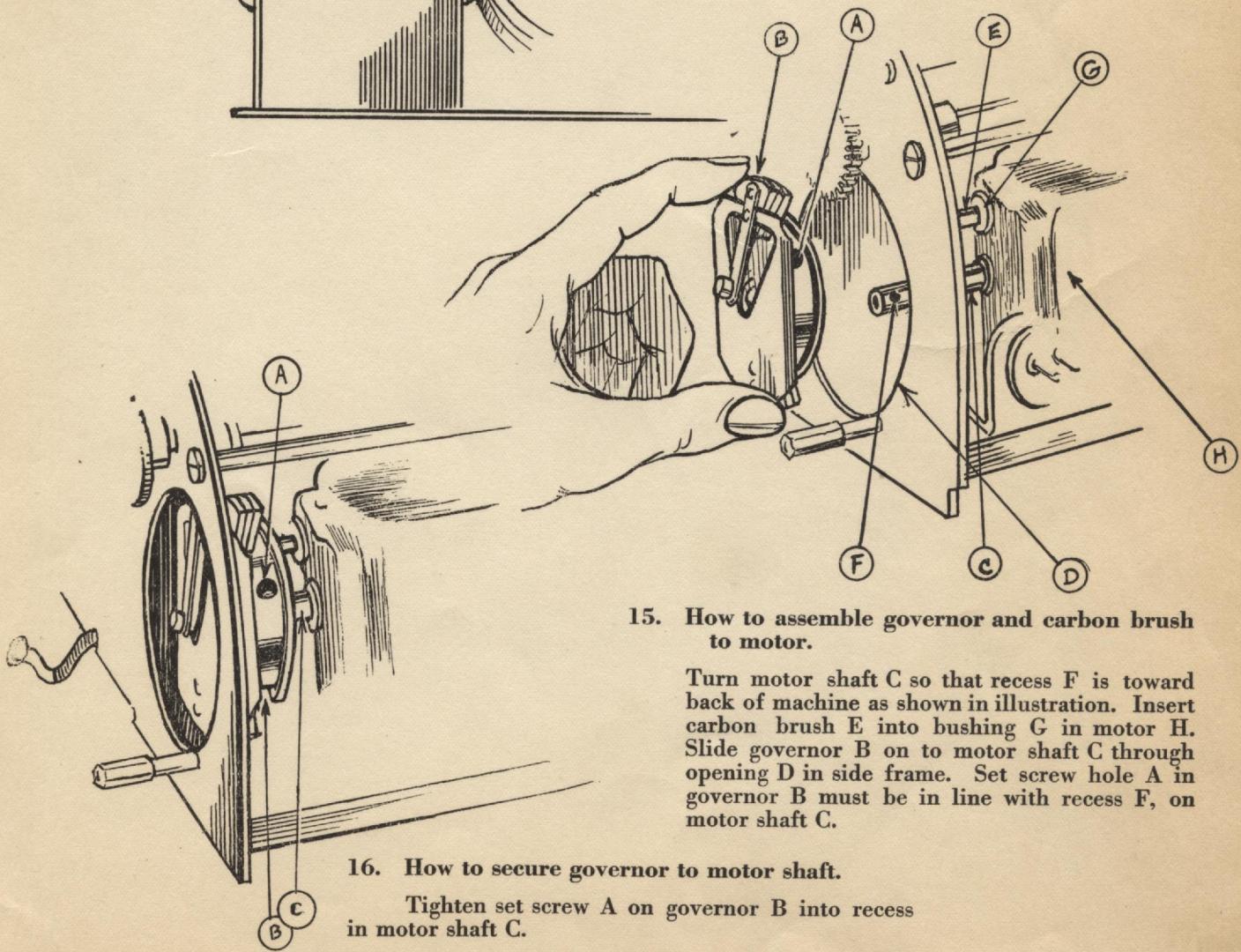
Note: Do not tighten screws.



**14. How to adjust motor.**

Insert screws with lock nuts attached in motor adjusting screw holes A. Turn screws until motor shaft B is centered in bearing C on inside transmission plate D.

Note: Do not tighten lock nuts.

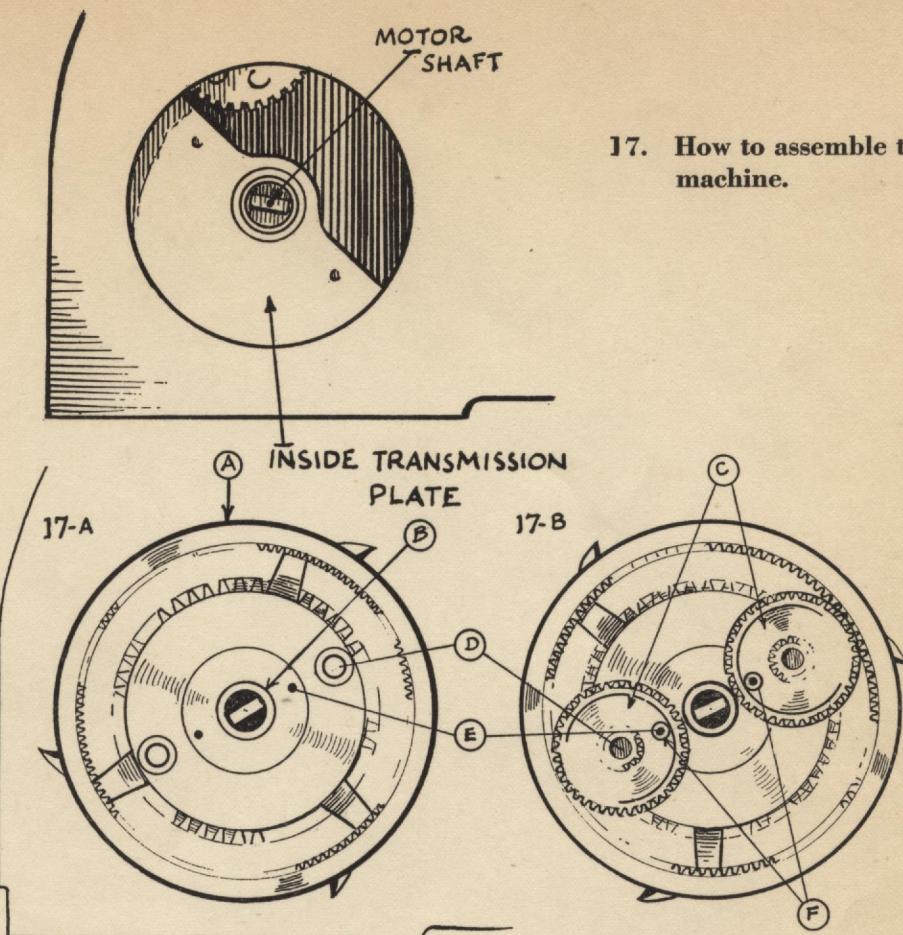


**15. How to assemble governor and carbon brush to motor.**

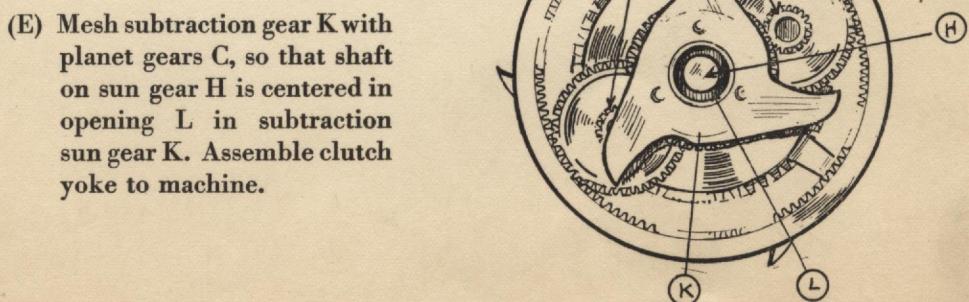
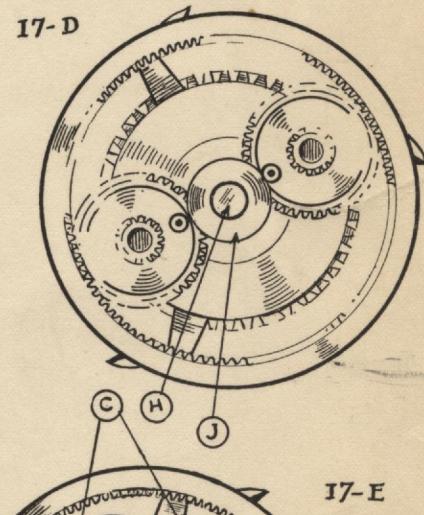
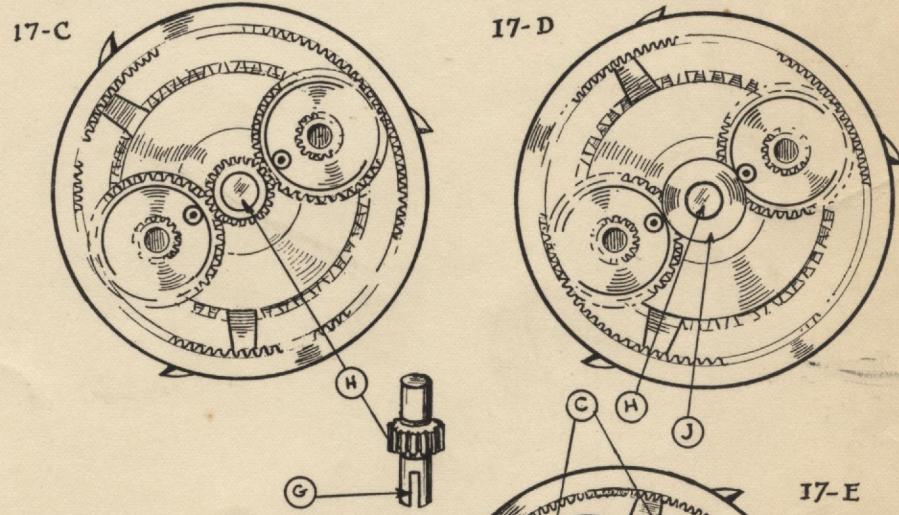
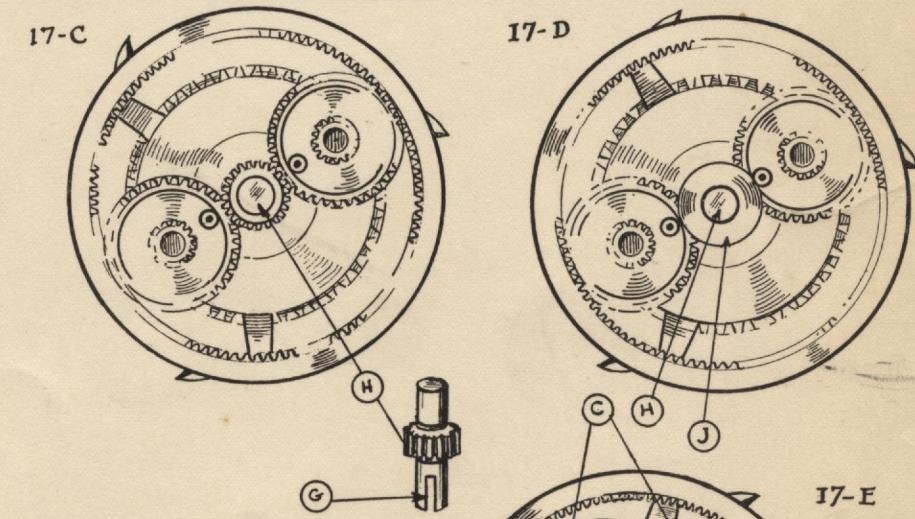
Turn motor shaft C so that recess F is toward back of machine as shown in illustration. Insert carbon brush E into bushing G in motor H. Slide governor B on to motor shaft C through opening D in side frame. Set screw hole A in governor B must be in line with recess F, on motor shaft C.

**16. How to secure governor to motor shaft.**

Tighten set screw A on governor B into recess in motor shaft C.

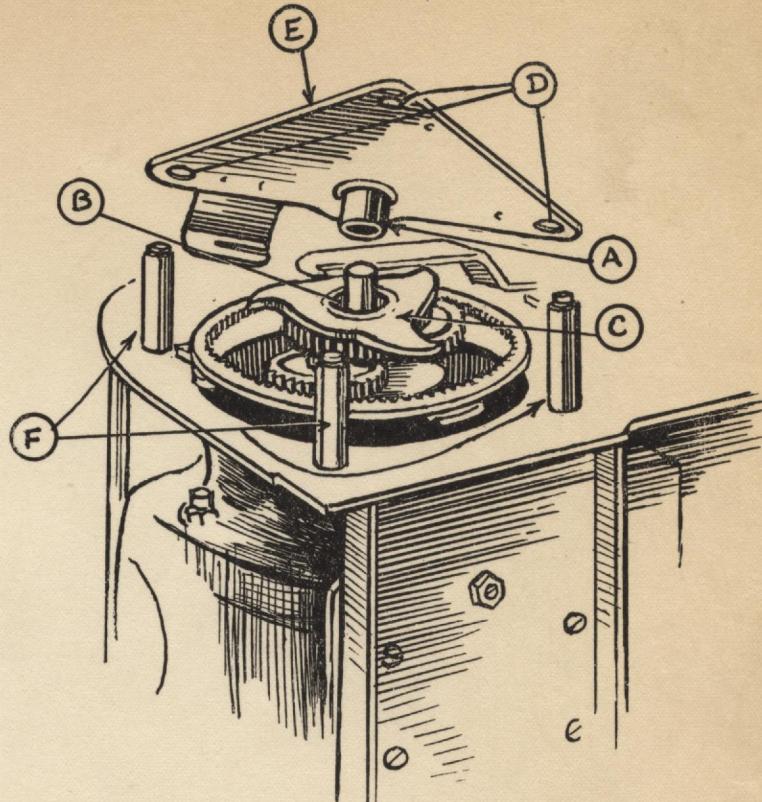


17. How to assemble transmission in machine.



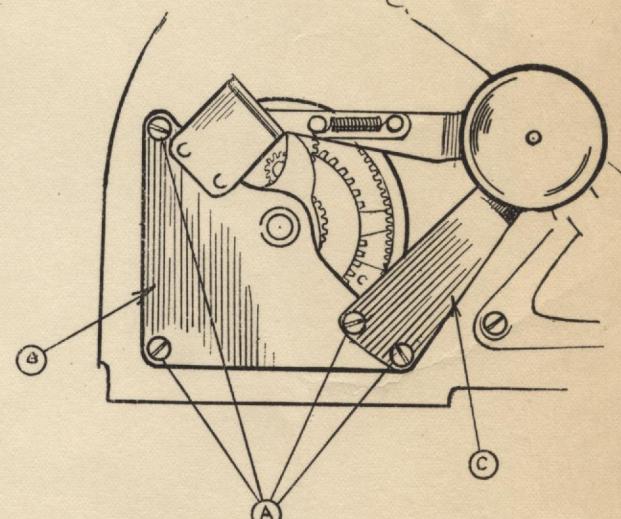
**18. How to assemble outer transmission bearing plate.**

Slide bearing A into opening B on subtraction sun gear C. Locate holes D in transmission plate E on spacing studs F.



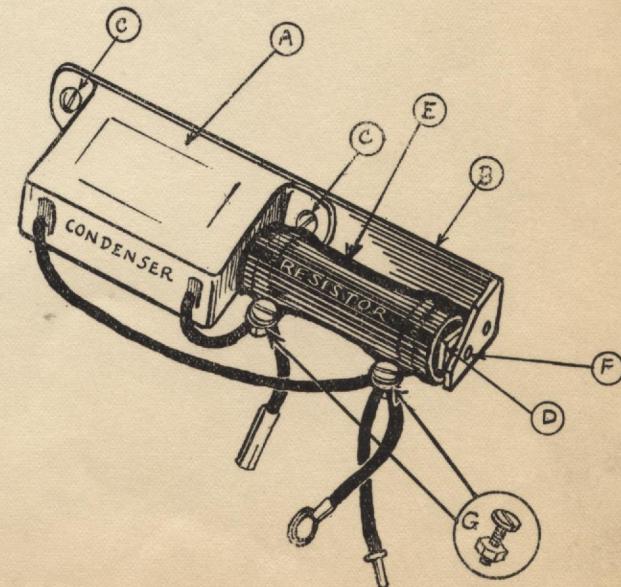
**19. How to secure outer transmission plate, bracket and bell to machine.**

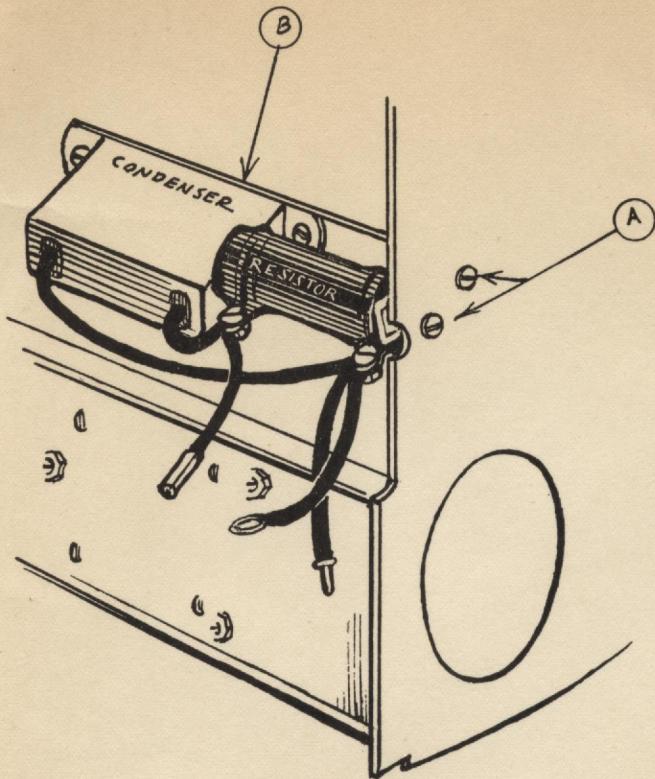
Locate bell bracket C over screw holes in bearing plate B as shown in illustration. Insert and tighten screws A.



**20. How to assemble condenser-resistor assembly to bracket.**

Attach condenser A to bracket B with screws C. Slide bracket D into resistor E. Set resistor between condenser and offset on condenser bracket. Line up screw hole in resistor bracket with screw hole F in condenser bracket.



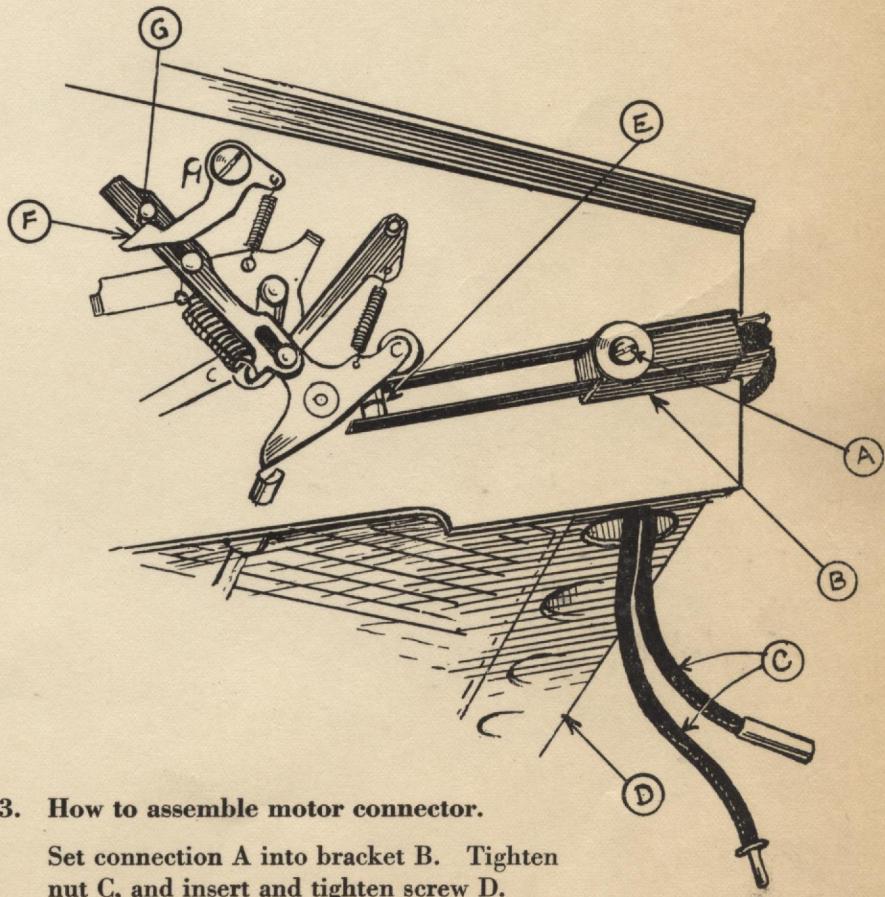


**21. How to assemble condenser-resistor assembly to machine.**

Place assembly B with screw holes in offset on condenser bracket in line with screw holes A in right hand side frame. Insert and tighten screws A as shown in illustration.

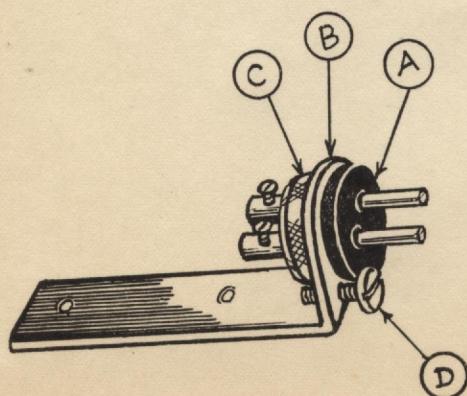
**22. How to assemble start and stop switch.**

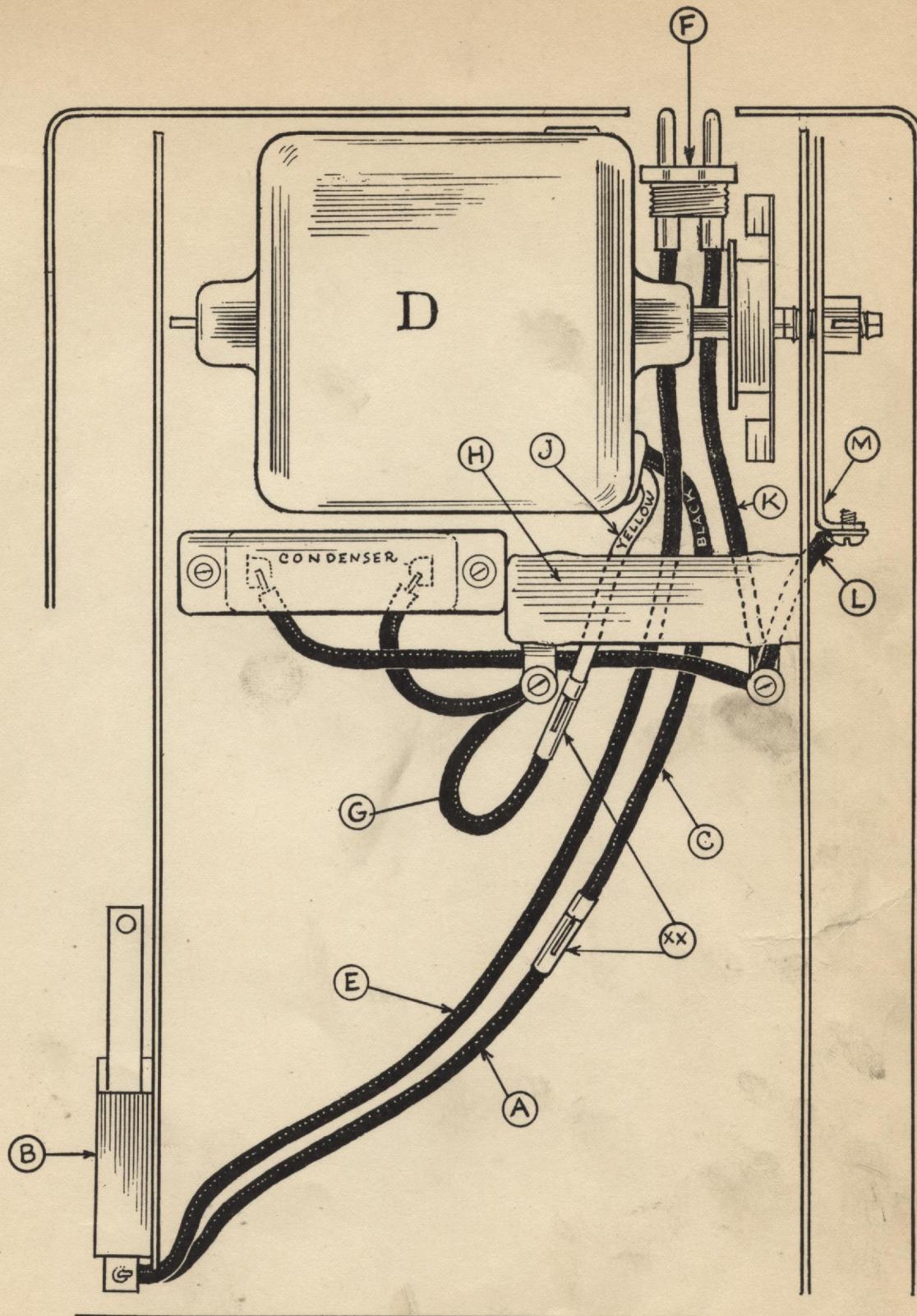
Pass wires C through front supporting bracket D. Set stop and start switch B on left hand side frame in the position shown in illustration. Assemble washer and screw A. Tighten screw slightly. Adjust points E to make contact when locator latch F has one-half hold on pin G on locator arm. Tighten screw A.



**23. How to assemble motor connector.**

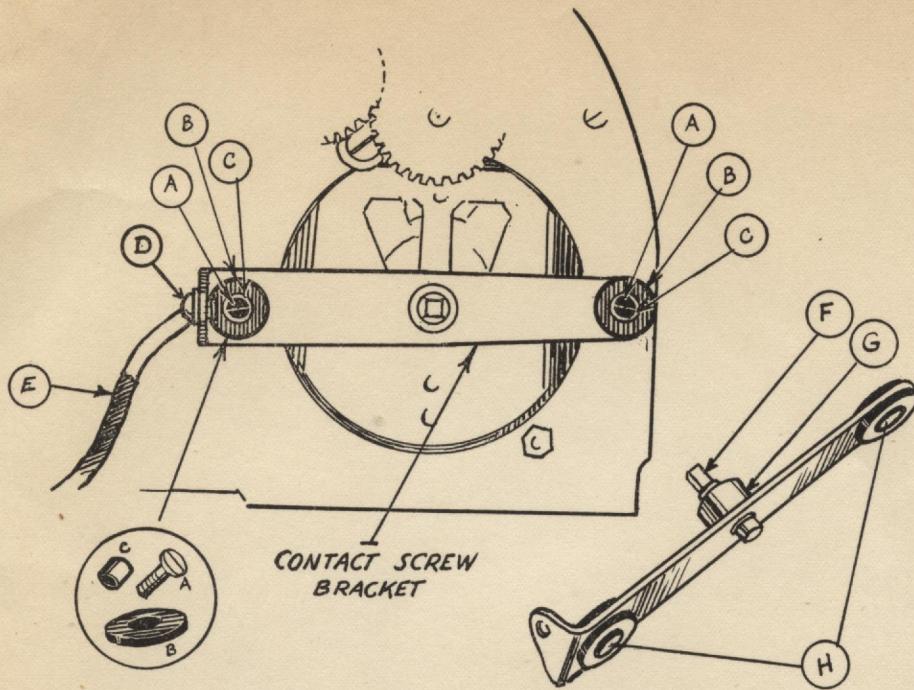
Set connection A into bracket B. Tighten nut C, and insert and tighten screw D.





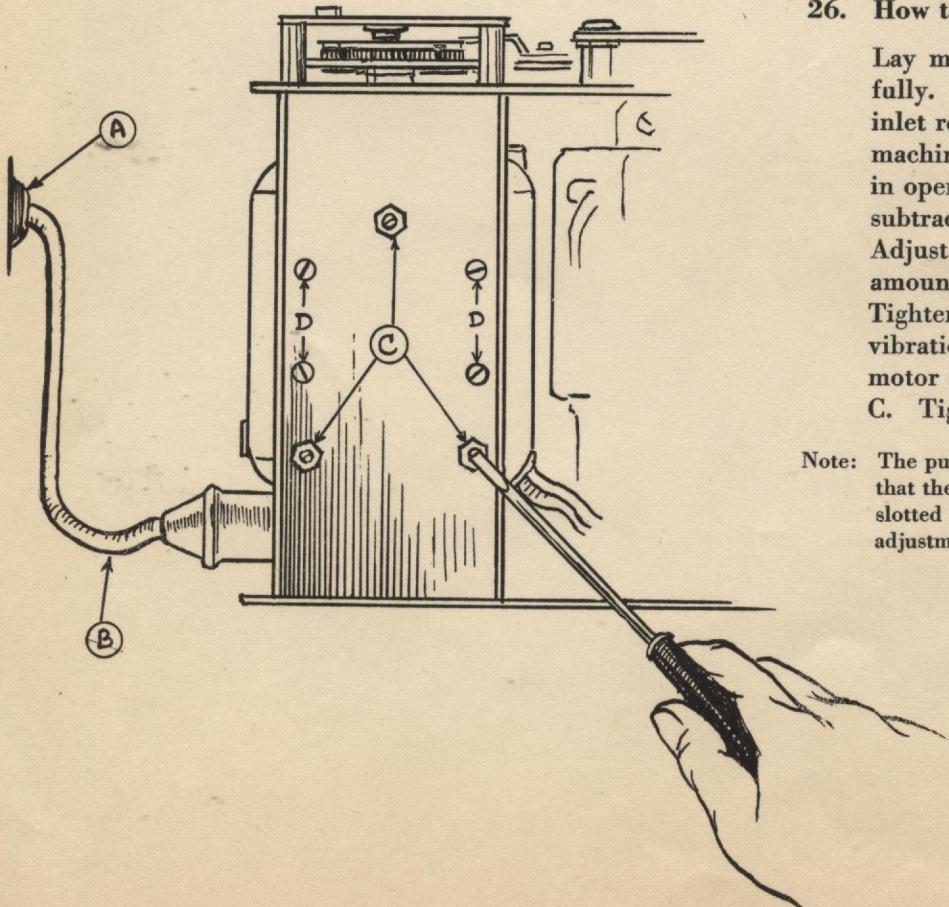
**24. How to make correct hookup of all wiring.**

Connect wire A on stop and start switch B with black wire C leading from motor D. Connect wire E on stop and start switch B to motor connector F. Connect black wire G on resistor H with yellow wire J, leading from motor D. Connect black wire K to motor connector F. Set motor connector F on motor supporting plate. Insert and tighten screws C as shown in illustration No. 6.



**25. How to assemble contact screw bracket to machine.**

Turn contact screw F into bushing G. Place fibre collar C in screw holes H in contact screw bracket. Place fibre washer B over fibre collar C on each side of contact screw bracket. Place bracket on side frame as shown in illustration. Attach and tighten bracket with screws A. Connect resistor wire E to contact screw bracket. Tighten screw D.



**26. How to make final adjustment of motor.**

Lay machine on its right hand side carefully. Make a connection between power inlet receptacle A and motor connector on machine with motor cord B. Start machine in operation by setting clutch yoke into the subtraction position and raising locator arm. Adjust screws C until there is a minimum amount of vibration in the transmission. Tighten motor supporting screws D. If vibration should increase after tightening motor supporting screws D, readjust screws C. Tighten lock nuts on screws C.

**Note:** The purpose of screws C is to raise the motor so that the key end of motor shaft is centered in the slotted end of the sun gear. Therefore, this adjustment is very important.